



## MILK PRODUCTION IN INDIA - OPPORTUNITIES AND RISKS FOR SMALL-SCALE PRODUCERS

In 2001 India became the world leader in milk production with a production volume of 84 million tons. India has about three times as many dairy animals as the USA, which produces around 75 million tons, over 80 percent being kept in herds of 2 to 8 animals. Annual milk yield per dairy animal in India is about one tenth of that achieved in the USA and about one fifth of the yield of a grass-fed New Zealand dairy cow.

More than 40% of Indian farming households, about two thirds of which own less than 1 ha of land, are engaged in milk production as this is a livestock enterprise in which they can engage with relative ease to improve their livelihoods. Regular milk sales allow them to move from subsistence to earning a market-based income.

Rapid structural changes are occurring globally in the livestock industry with a real danger that the poorer livestock producers will be crowded out and left behind. As more than 40 million households in India at least partially depend on milk production, developments in the dairy sector will have important repercussions on their livelihoods and on rural poverty levels.

The state of Haryana, one of the major milk producing states in India, was chosen to assess possible developments in the Indian dairy sector and to broadly identify areas of interventions that favour small-scale dairy producers. Impacts of changes in milk prices, farm management and other market factors that affect small-scale milk production systems, the whole farm and related household income, were examined using a methodology developed by the International Farm Comparison Network (IFCN).

Four types of dairy farms were identified, defined by (a) location of the farm in relation to urban centres - urban/peri-urban farms vs rural farms -

and (b) land ownership - land owning vs landless farms. Income level and composition, labour use, production costs and hypothetical scenarios involving changes in factors affecting milk production were analysed and the results validated in discussions with local experts and farmers.

### ● Household and Farm Comparison

All four farm types have a more or less diverse income structure, income sources being the sale of milk, cash crops in the case of land ownership, and off-farm employment. Annual household incomes ranged from 700 US\$ for a rural landless farm (less than 50 US\$ cents per person per day) to 8,200 US\$ for a larger peri-urban farm. Especially for rural landless farms the main source of income is off-farm employment.

The annual income from dairy farming ranged from 200 US\$ to 8,200 US\$ per year. For the rural landless farm, the net cash farm income, less than 50 US\$ a year, just covered the farm cash costs and contributes less than 10 percent to the household income. This was due mainly to the low share of milk sold and the interest rates paid for a loan from the local milkman. However, the non-cash benefits from the dairy obtained in the form of milk for home consumption and manure used as fuel are significant and have a market value equivalent to around one quarter of the total household income.

### ● Costs of Milk Production

Land-owning farms that have the possibility to grow crops and forage are able to produce milk at around 15 US\$/100 kg. These farms have the potential to compete with non-subsidised imports of dairy products and also to produce milk for export, provided international quality



standards can be achieved and the dairy chain being internationally competitive.

The cost of milk production of landless farms near urban areas is 50 percent higher (an additional 8 US\$/100 kg milk) than that of the land-owning farms. This is due to higher feed costs as a result of having to purchase all feed. However, the high milk price obtained in urban areas (an additional 8 US\$/100 kg) compensates for the additional costs. Landless farms near urban centres typically fully cover their production costs and should be economically viable in the long run.

The cost of milk production of rural landless farms amounts to 25 US\$/100 kg if family labour is priced at the minimum wage rate, and is thus significantly higher than the production cost incurred by land-owning farms. This high cost results from the low annual milk yields, the very high labour input per litre produced and poor breeding performance. Without major improvements, rural landless dairy farms will, in the longer run, have difficulties competing with the larger farm types. However, it has to be kept in mind that the main purpose of landless rural farms is to produce milk for home consumption by converting practically free feedstuffs into milk, surplus livestock, and fuel and secondly to provide the female members of the family with an income-generating activity.

### • Prospects for Landless Dairy Farmers

Simulation of increased productivity, better farm financing and improved milk marketing, as they could result from pro-poor dairy development policies, show that landless rural dairy farmers do have the potential to reduce the cost of milk production to the level of the larger farms. They could thereby achieve an income from dairying that provides higher returns to labour than the prevailing minimum wage rate in the area and fully cover their production costs. Thus, landless people in rural areas theoretically have the potential to run a profitable dairy enterprise, which generates employment for family members, especially women, and significantly improves their living conditions. The

main risks of dairying identified by the farmers are not having an animal in milk in any one year, the death of a lactating animal, and having to pay for straw, which is the main feed source. Occurrence of any of these events can lead to a reduction of the already low household income by 50 percent, and would probably force the family to abandon the dairy enterprise.

### • Recommendations

In order to manage the production risks faced by rural landless dairy farmers and to realize the potential of small-scale dairy production as a means to reduce poverty farm productivity has to be raised.

Raising productivity of dairy farms and mitigation of their production risks requires the availability of improved breeding services, targeted preventive animal health care (specifically addressing foot-and-mouth disease and haemorrhagic septicaemia) and better feeding strategies.

Furthermore, access to formal credit at market interest rates would provide farmers with an alternative to having to accept loans from the milkman and thus increase their bargaining power in the market place.

As long as small dairy producers are not an organized and active interest group, dairy and related sector policies will be driven by other actors who may have conflicting interests. Building the capacity of producers to act on their own behalf is therefore essential for improving poor producers' welfare.

#### Policy Brief based on:

*A Review of Milk Production in India with Particular Emphasis on Small-scale Producers*, PPLPI Working Paper 2, Torsten Hemme, Otto Garcia and Amit Saha

Date of publication: June 2003

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